CLAIMS

1. An anisotropic material comprising an alternating-line pattern and a layer of at least one functional compound selected from the group consisting of a semiconductor compound, an electrically conductive compound, a photochromic compound and a thermochromic compound, formed on a surface of the alternating-line pattern, wherein one type of lines in the alternating-line pattern surface comprises a fluorine-containing compound or silicone.

2. The anisotropic material according to claim 1, wherein a difference between surface free energy of the type of lines comprising the fluorine compound or silicone and surface free energy of the other type of lines is at least 5 mJ/m^2.

3. The anisotropic material according to claim 1, wherein the alternating-line pattern has a line width of 0.5 to 100 μm.

4. The anisotropic material according to claim 1, wherein the alternating-line pattern has unevenness of not more than 10 nm.

5. The anisotropic material according to claim 1, wherein the shape of droplets is distorted when 2 μL of ethanol is gently dropped from above the alternating-line pattern, and the degree of distortion is at least 1.1 in terms of a ratio L/W of the length in a major axis (L) to the length in a minor axis (W) of droplets.

6. The anisotropic material according to claim 1, wherein the alternating-line pattern comprises an organic silane compound, an organic thiol compound, an organic disulfide compound and/or an organic phosphoric acid ester.

7. A method for producing an anisotropic material, which comprises applying a solution of at least one functional compound selected from the group consisting of a semiconductor compound, an electrically conductive compound, a photochromic compound and a thermochromic compound on the surface of an alternating-line pattern, one type of lines of which comprises a fluorine-containing compound or silicone.

8. The method according to claim 7, wherein a liquid which dissolves the functional compound is a solvent having a surface tension of not more than 30 mN/m.

9. A method for producing a functional material,

comprising using, as a template, a pattern surface composed of plural regions each having different surface free energy, characterized in that:

(1) at least one region of the pattern surface is treated with a fluorine compound, and

(2) the method comprises applying a functional compound solution on the pattern surface and removing a solvent.

10. The method according to claim 9, wherein the fluorine compound comprises a fluorine compound having the following structure:

(a) a fluorine compound which has a branched fluoroalkyl group having 5 or less carbon atoms,

(b) a fluorine compound having a perfluoropolyether group,

(c) a fluorine compound having a polymer structure obtained by polymerizing a monomer which has a fluoroalkyl group having 5 or less carbon atoms,

(d) a fluorine compound having a linking group which is any one of an urethane group, an ester group, an ether group and an amide group, existing between a fluoroalkyl group having 5 or less carbon atoms and a functional group,

(e) an incompletely-condensed silsesquioxane which has a fluoroalkyl group having 5 or less carbon atoms, and/or

(f) a completely-condensed silsesquioxane which has a silane

group and a fluoroalkyl group having 5 or less carbon atoms.

11. A functional material produced by the method according to claim 9.

12. A method for producing a functional material, which comprises applying a functional compound to a pattern surface having at least one region surface-treated with a fluorine compound.

13. The method according to claim 12, wherein the fluorine compound comprises a fluorine compound having the following structure:

(a) a fluorine compound which has a branched fluoroalkyl group having 5 or less carbon atoms,

(b) a fluorine compound having a perfluoropolyether group,

(c) a fluorine compound having a polymer structure obtained by polymerizing a monomer which has a fluoroalkyl group having 5 or less carbon atoms,

(d) a fluorine compound having a linking group which is any one of an urethane group, an ester group, an ether group and an amide group, existing between a fluoroalkyl group having 5 or less carbon atoms and a functional group,

(e) an incompletely-condensed silsesquioxane which has a fluoroalkyl group having 5 or less carbon atoms, and

(f) a completely-condensed silsesquioxane which has a silane group and a fluoroalkyl group having 5 or less carbon atoms.

14. A functional material produced by the method according to claim 12.